

Harvest of the Month

Growing Healthy Students



Nutrition Facts

Serving Size: 1 medium apple (154g)	
Calories 80	Calories from Fat 2
	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 2mg	0%
Total Carbohydrate 21g	7%
Dietary Fiber 4g	15%
Sugars 16g	
Protein 0g	
Vitamin A 2%	Vitamin C 12%
Calcium 1%	Iron 1%

Source: www.nutritiondata.com

APPLE | September

Health and Learning Success Go Hand-in-Hand

Research shows that proper nutritional support and regular physical activity translate to improved academic performance and classroom behavior. **Harvest of the Month** connects with core curricula to give students the chance to explore, taste and learn about the importance of eating fruits and vegetables. It links the classroom, cafeteria, home and community to motivate and support students to make healthy food choices and be physically active every day.



Taste Testing with California Apples

Offering taste testing activities allow students to experience the featured produce with their senses, engaging them in the learning process and creating increased interest, awareness and support for increasing consumption of fruits and vegetables.

Tools:

- A variety of quartered apples* (refer to *Home Grown Facts* on page 2 for varieties)
- One apple variety per every four students
- Graph paper and colored pencils

*To prevent browning, keep quartered apples in 100% apple juice until start of activity

Activity:

- Observe, touch, smell and taste each apple variety
- Develop a color graph using appearance, texture, smell, flavor and sound
- Compare and contrast the varieties

For more ideas, reference:

School Foodservice Guide – Successful Implementation Models for Increased Fruit and Vegetable Consumption, Produce for Better Health Foundation, 2005, pg. 39-42.

Cooking in Class: Apple Yogurt Trifle*

Ingredients (Makes 32 tastes at 1/4 cup each)

- 4 Granny Smith apples, cored and finely chopped
- 8 (8-ounce) containers lowfat cherry yogurt
- 3 cups Grape-Nuts cereal
- Small paper cups

Evenly divide four of the yogurt containers and half of the chopped apple pieces among cups to provide each student with a taste. Add two tablespoons of Grape-Nuts to each cup, then top evenly with layers of remaining yogurt, chopped apple and a sprinkle of Grape-Nuts. Refrigerate at least 15-20 minutes before serving to allow cereal to soften.

*This recipe requires brief refrigeration.

Source: www.bestapples.com/recipes

For more ideas, reference:

Kids Cook Farm-Fresh Food, CDE, 2002.

Eat Your Colors

Fruits and vegetables come in a rainbow of colors. Eat a variety of colorful fruits and vegetables every day — red, yellow/orange, white, green and blue/purple. Apples can be red, yellow or green.

Red fruits and vegetables help maintain a healthy heart, memory function and urinary tract health. They may also lower the risk of some cancers. Examples include red apples, red peppers, beets, tomatoes, red grapes and pomegranates.

Yellow/orange fruits and vegetables help maintain a healthy heart, vision health and a healthy immune system. They may also lower the risk of some cancers. Examples include yellow apples, apricots, oranges, sweet potatoes and pumpkin.

Green fruits and vegetables help maintain vision health and strong bones and teeth. They may also lower the risk of some cancers. Examples include green apples, green grapes, kiwifruit, artichokes, avocados and green beans.



September Events

- National 5 A Day Month
- National Apple Month
- National Family Health and Fitness Day

For more information, visit:

www.5aday.com/html/colorway/colorway_home.php
www.harvestofthemonth.com

How Do Apples Grow?

Apple trees grow in the temperate regions of the world. Apple trees are best adapted to places where the average winter temperature is near freezing for at least two months, though many varieties can withstand winter temperatures as low as -40°F.

Apple trees are deciduous. In late spring, white blossoms appear from the tiny buds on apple tree branches for about nine days and produce pollen and nectar. Bees help to cross-pollinate the blossoms, the first step in forming an apple.

The seeds are distributed among an apple's five seed chambers, called carpels, found near the core. Seed development stimulates the apple tissue development. Apples continue to grow until late summer when they are ready to harvest and eat.

What's in a Name?

Pronunciation: ăp'əl

Spanish name: manzana

Family: Rosaceae **Genus:** *Malus* **Species:** *M. domestica*

Apples are the fruit of plants of the genus *Malus* in the family Rosaceae (rose family). Domestic or table apples are of the species *M. domestica* and are one of the most widely cultivated tree fruits.

Malus sieversii is the wild ancestor of *M. domestica*, and its trees can still be found in the mountains of Central Asia. In fact, the former capital of Kazakhstan, Almaty, means "father of the apple." Wild apples (common name for *M. sieversii*) resist many diseases and pests that affect domestic apples, and it is often researched and used in the development of new disease-resistant apples.

For more information, visit:

<http://en.wikipedia.org/wiki/Apple>

Reasons to Eat Apples

Apples contain:

- A good source of fiber and Vitamin C. Fiber helps maintain steady blood sugar levels and may help to prevent cancer.
- A source of potassium, which helps maintain a healthy heart.
- Phytonutrients, antioxidants, iron, calcium and Vitamin A.

Student Sleuths

- 1 Why is fiber important?
- 2 Apples contain natural fructose. What is natural fructose and what are its benefits?
- 3 Why do apples float in water?
- 4 True or false: Apples have their own layer of natural wax.

For information, visit:

www.cdc.gov/nccdphp/dnpa/5ADay/month/apple.htm

www.usapple.org

www.calapples.org

Fruity Facts

About 2,500 known varieties of apples are grown in the United States and more than 7,500 are grown worldwide.

Apples are best when eaten with the peel, as that is where most of the fiber and antioxidants are found.

Almost one half of all apples consumed are not in their fresh form, but rather as applesauce, apple juice and jellies or jams. Apples can even be used to replace fat and butter in baked goods. (Replace shortening or oils in baking with an equal volume of applesauce plus one-third of the oil called for in the recipe.)

A Slice of Apple History

Apples have existed for the length of recorded history and are believed to have originated in the Caucasus, a mountainous area between what is now the Black and Caspian Seas. The people of that region are commonly considered the ancestors of most of the people of modern Europe, Persia, Afghanistan and India — apparently taking apples along with them.

Through the rise of Greece, the fall of Persia and migrations to Rome and Europe, apples were cultivated and — through a process called grafting, which produces new varieties — disseminated throughout various cultures. Apples experienced surges of popularity and, at one point, some varieties were nearly lost, but were saved due to traditional orcharding by the English church.

Apple growing arose again in fifteenth-century Renaissance Italy. Eventually, France and England followed suit, and the fruit remained popular in Europe well into the 1800s, when European settlers brought apples with them to the Americas to share the cultivation and traditions.



Home Grown Facts

The apple industry in California dates back to the 1800s, when two early orchards were cultivated in Watsonville and Sebastopol along the Central and Northern coastal regions. Today there are more than 450 growers.

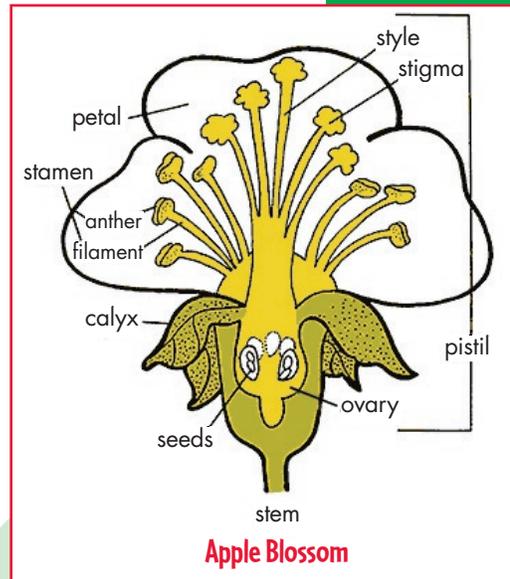
California ranks fourth in commercial apple production in the United States — an impressive accomplishment achieved in about 20 years of serious commercial production.

California is known for its vast variety of apples and continual production of new varieties. Examples of some California grown apples include the Red Delicious, Golden Delicious, Gala, Fuji, Granny Smith, McIntosh, Rome, Jonathon and Pink Lady.

California apples are harvested throughout the year and many varieties are available year-round.

For more information, visit:

www.calapples.org





The Legend of Johnny Appleseed

Born September 26, 1774 in Massachusetts on the eve of the American Revolution, John Chapman became the legendary "Johnny Appleseed." He spent almost 50 years of his life in the American wilderness planting apple orchards in Illinois, Kentucky, Pennsylvania and Ohio.

Johnny Appleseed was known as a kind and generous man. Alone, he pioneered the frontier on foot, planting apple trees and selling them to the settlers on the plains for a few pennies each, or even clothing. Some had no cash, and from those he accepted a simple promise to pay at a later date. Few failed to keep their word.

Chapman died in 1845, but even after 200 years, some of his trees still bear apples.

Elementary literature on the life and legend of Johnny Appleseed:

- Aliko. *The Story of Johnny Appleseed*. Aladdin, 1987.
- Glass, Andrew. *Folks Call Me Appleseed John*. Doubleday, 1995.
- Harrison, David. *Johnny Appleseed: My Story*. Random House, 2001.

Physical Activity Corner

Healthy nutrition is only one part of the equation to achieving optimal learning in the classroom; physical activity is the other part. Children should engage in at least one hour of physical activity every day to stay fit both mentally and physically. Dedicate the month of September to playing a different game or activity, like *Grab the Apple*, each week in or out of the classroom.

Grab The Apple!

Objective: Develops listening and fine motor skills (reflexes)

Activity Time: 15-30 minutes **Prep Time:** 5 minutes

Supplies:

- Boxes and apples (one apple and box per two students)
- Whistle or music

Preparation:

- Pairs sit cross-legged on floor facing each other, hands on knees
- Place box, with apple on top, between pairs
- Use START (whistle/music) cue to lead activity

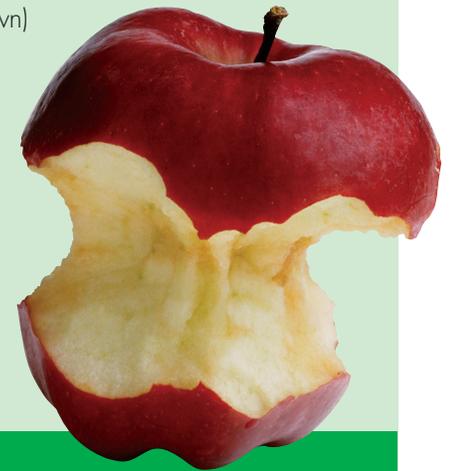
Activity:

- On START cue, grab the apple before partner
- Variations:
 - Call out a specific hand to grab the apple
 - Start with hands on shoulders
 - Start in sit-up position (on back, knees bent)
 - Start in push-up position (on stomach, face down)

Go Farther: Ask students to think of different starting positions to try.

Bring It Home: Encourage students to play *Grab the Apple* with family members.

For more ideas, visit:
www.sparkpe.org



Cafeteria Connections

- Most cafeteria meals use Washington Delicious apples. Have students investigate what types of apples are used in the school cafeteria. Then, write letters to the child nutrition staff listing the benefits of other varieties (including California grown) and asking them to consider serving these.
- Encourage students to identify apples in books they read. The class that reads the highest number of different books containing apples receives an apple crumb dessert party. Apple crumb recipe:
www.5aday.com/pdfs/kids/activity/apples.pdf

For more ideas, reference:
Fruits and Vegetables Galore, USDA, 2004.

www.nal.usda.gov/kids
www.agclassroom.org



Student Sleuths

- 1 What does the color of an apple's skin tell you about the environment where it was grown?
- 2 Map the origin of the apple and the various geographical regions in California where apples are grown.
- 3 List the top five varieties of apples commercially produced in California and the counties that grow them.
- 4 Determine how much of the apples harvested in California go into processed foods/juices and how much is sold whole/fresh.

For information, visit:

www.calapples.org/framesets/capl_main_fr.html

www.usapple.org/consumers/applebits/stories.shtml#history

School Garden: Savvy Seed Saving

As fall weather spells an end to most school gardens, encourage students to become seed detectives by identifying, collecting and saving their own seeds from the garden or the wild.

Helpful Hints:

- Saving seeds of annual plants may make the most sense, since these complete their life cycle, from seed to seed, in one year.
- Moist seeds don't keep well, so be sure to dry collected seeds in a well-ventilated place on paper towels for about one week.
- Store seeds in jars in a cool location (i.e. refrigerator, freezer).
- Some fruits and vegetables to consider: melons, tomatoes, beans, peas, peppers, pumpkins, squash

Digging Deeper:

Have students create their own packages of seeds they've saved. Students can give them away as gifts, sell them as part of a school fundraiser or trade them with another classroom or school.

For more ideas, visit:

www.kidsgardening.com

FITNESSGRAM®

The beginning of the school year is a great time to start preparing students for the FITNESSGRAM, a state-required Physical Fitness Test administered in the spring for students in grades five, seven and nine. The FITNESSGRAM is a set of tests designed to evaluate health-related fitness, with the goal of helping students establish lifetime habits of regular physical activity.

Designed to assess the three basic components of fitness, the FITNESSGRAM tests:

- 1 aerobic capacity
- 2 body composition
- 3 muscle strength

The third component is divided into four areas: abdominal strength and endurance; trunk extensor strength and flexibility; upper body strength and endurance; and overall flexibility.

Helping Students Prepare:

Discuss with your class the importance of physical activity and the standards on which they will be tested.

Identify two activities that apply to each testing standard. Then do the exercises as a class every day or on alternating days. Examples for the aerobic capacity standard include:

- 1 Jogging outside around the track or school
- 2 Doing jumping jacks in class for one minute

Remind students that the FITNESSGRAM is not pass or fail, but the launching pad to a lifetime of health.

For more information, visit:

www.cde.ca.gov/ta/tg/pf

www.cde.ca.gov/re/pn/fd/documents/pefrwk.pdf

www.cdc.gov/nccdphp/dnpa/physical/index.htm

Literature Links

- **Primary:** *An Apple a Day* by Melvin Berger, *Apple Tree* by Barrie Watts, *The Life and Times of the Apple* by Charles Micucci, *The Crooked Apple Tree* by Eric Houghton and *Johnny Appleseed* by Patsy Jensen.
- **Secondary:** *Fruits and Vegetables for Health* by Brenda Byers and Priscilla Naworski.
- **High School:** *Agricultural History*, University of California Press, Journals Division.



Adventurous Activities

Field Trip:

Take students on an apple-picking field trip or to a farmers' market, or even bring the field trip to the school. For more information on Farm to School programs, visit www.farmtoschool.org/ca/index.htm.

Problem Solving:

Use apples in math equations to demonstrate addition and subtraction of fractions.

Creative Writing:

Have students interview and document their parents' favorite apple stories, memories and recipes.

Science Investigation:

Oxidation is the browning reaction that occurs when the atoms in an apple come in contact with air and lose electrons.

- Cut two apples in half. Pour one tablespoon of lemon juice over the first half. Pour one tablespoon of water over the second half. Pour one tablespoon of apple juice over the third half. Do not pour anything over the fourth half. Leave all four halves in a visible spot in the classroom. Have students note the differences in the browning after one hour to see which method works best and why.

Calendar Connection:

September is National 5 A Day Month. Have students vote on their favorite in-season fruit or vegetable to plant in the school garden. Visit www.5aday.com/html/events/week.php for event information and ideas.

For more ideas, visit:

www.usapple.org/educators/applestore/index.shtml

Student Advocates for Apples

- Have students gather their favorite nutritious apple recipes* and brainstorm ideas on how to incorporate apples into the school breakfast and lunch menus. Then have them meet with the child nutrition staff to share their ideas.
- Ask students to note during their next trip to the grocery store where the apple displays are located. Are they in the front, back or on the side? How many varieties do they have available?

*Visit www.harvestofthemonth.com for a variety of nutritious recipes.



Up Next!

If you enjoyed exploring apples with **Harvest of the Month**, join us next month to learn all about October's featured fruit — the pear.

